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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,825	09/08/2003	Hayao Ohzu	03500.004756.11	9429

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EXAMINER

NGUYEN, LUONG TRUNG

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/656,825	<b>Applicant(s)</b> OHZU ET AL.	
	<b>Examiner</b> LUONG T. NGUYEN	<b>Art Unit</b> 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 12-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 08/705,002.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/08/03</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 08/705,002, filed on 8/29/1996.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 12-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 8 of U.S. Patent No. 6,747,699. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the reasons discussed below.

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Application claims 12-17 are encompassed in patent claims 1-5, 8, respectively.

Since the subject matters recited in claims 12-17 of the instant application were fully disclosed in and covered by the claims 1-5, 8 of the U. S. patent No. 6,747,699, allowing these claims would result in unjustified or improper timewise extension of the "right to exclude" granted by a patent.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baji et al. (US 4,407,010) in view of Koch and Herbst publication.

Regarding claim 12, Baji et al. discloses an image pickup apparatus comprising:

a plurality of sensors (a plurality of photodiodes 1, figure 3, column 4, lines 42-60), each performing photoelectric conversion and generating a photoelectric conversion signal;

a plurality of amplifiers (a plurality of amplify MOS transistors 20, figure 3, column 4, lines 42-60), each of said plurality of amplifiers corresponding to a respective one of said plurality of sensors, where a signal from each of said plurality of sensors is output through a corresponding one of said plurality of amplifiers;

a plurality of reset switches (a plurality of reset transistors 24, figure 3, column 4, lines 42-60), each of said plurality of reset switches corresponding to a respective one of said plurality

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of amplifiers and being connected to an input portion of the corresponding one of the plurality of amplifiers for resetting the input portion;

read-out circuitry (scanning circuits 9 and 10, figure 3, column 4, lines 42-60) operable in a first mode, in which a first signal including a photoelectric conversion signal accumulated in the sensor for a predetermined time period is read out through the corresponding amplifier (when voltage V26 is dropped to low level L at the time t1, the charges have been stored in the photodiodes are released, figures 3-4, column 5, lines 1-6), and a second mode, in which a second signal including a noise signal obtained from the amplifier by resetting the input portion of the amplifier with the corresponding reset switch is read out (at time t4, the voltage V26 is raised to the level H, the photodiode is reset, at time t5 a signal current I7 is read out, figures 3-4, column 5, lines 6-42).

Baji et al. fails to specifically disclose correction circuitry for correcting a first signal obtained in the first mode using a second signal obtained in the second mode. However, Koch and Herbst publication teaches a differential stage to remove fixed pattern noise from the signal (figure 1, page 93). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Baji et al. by the teaching of Koch and Herbst publication in order to remove fixed pattern noise from the signal (page 93).

Regarding claim 13, Baji et al. discloses a common output line (output terminal 7, figure 3) for sequentially outputting signals output from said plurality of amplifiers, and

scanning circuitry (scanning circuit 9, figure 3) for sequentially reading out the signals output from said plurality of amplifiers to said common output line.

Regarding claim 14, Baji et al. discloses wherein said correction circuitry is connected to said common output line (figure 1).

Regarding claim 15, Koch and Herbst publication discloses wherein said correction circuitry includes subtraction processing circuitry (differential stage, figure 1, page 93) for obtaining a difference between the signal obtained in the first mode and the signal obtained in the second mode.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baji et al. (US 4,407,010) in view of Koch and Herbst publication further in view of Akiyama et al. (US 4,805,025).

Regarding claim 16, Baji et al. and Koch and Herbst publication fail to specifically disclose wherein said correction circuitry includes a clamp circuit. However, Akiyama et al. teaches a solid-state image imager which includes clamp circuit 51 and amplifier 4 (figure 5, column 2, lines 35-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Baji et al. and Koch and Herbst publication by the teaching of Akiyama et al. in order to eliminate reset noise (column 3, lines 13-15).

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7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baji et al. (US 4,407,010) in view of Koch and Herbst publication further in view of Izumita et al. (US 4,413,284).

Regarding claim 17, Baji et al. discloses a driver (scanning circuits 9 and 10, figure 1). Baji et al. and Koch and Herbst publication fail to specifically disclose signal processing circuitry for performing signal processing of a signal output from said correction circuitry; and control circuitry for controlling said signal processing circuitry. However, Izumita et al. discloses noise reducer for a solid state imager which includes sampling circuit 64 and processing circuit 70 (figure 8) disclosed as signal processing circuit; and pulse generator circuit 2 (figure 8) disclosed as control circuitry. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Baji et al. and Koch and Herbst publication by the teaching of Izumita et al. in order to obtain a signal in which the effect of the improvement of the signal to noise ratio is very great (column 5, line 29-30).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T. NGUYEN whose telephone number is (571) 272-7315. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID L. OMETZ can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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10/30/06

A handwritten signature in black ink, appearing to read 'David Ometz', with a long horizontal line extending to the right.

DAVID OMETZ  
SUPERVISORY PATENT EXAMINER